

Incorporating concussion education into hockey programs

Concussion resources: Healthy Hockey Heads study

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Concussions are an important topic in youth sports. For example, concussions account for approximately 15% of injuries in hockey players aged 9 to 16 years, with most resulting from aggressive behaviour such as bodychecking.^{1,2} Concussion must be seen beyond the initial hit: the potential cognitive and mood changes that can result from concussions cause considerable morbidity.³ It is imperative to protect the health and well-being of young athletes while maintaining the competitive nature and sportsmanship of hockey.

Rule changes in leagues that ban bodychecking result in 3-fold lower injury rates, which include fewer concussions.^{1,2} While Hockey Canada responded to these data by raising the age at which bodychecking is allowed to 13 years, additional risk factors for concussion include the age and size of the player, the position played, the level of competitiveness, and the player's history of previous injuries, concussions, migraines, and learning and attention deficit disorders.³⁻⁶

A growing body of research describes the importance of education programs for reducing aggressive player behaviour and injury rates.¹ While the best method to decrease injury rates has yet to be determined, we believe the most effective programs incorporate safety thinking into routine hockey thought processes. This includes assessment of injury risks, injury reporting and documentation, and incorporation of return-to-play guidelines in order to avoid the long-term consequences of brain injury. The Centers for Disease Control and Prevention's HEADS UP program, the Hockey Canada Safety program, Parachute Canada, and the Canadian Paediatric Society resources help address these topics.

Healthy hockey heads

Until hitting is banned or reduced, it is essential that safety education be incorporated into minor hockey programs for coaches, parents, and especially players in order to minimize the incidence of concussions. Therefore, we created a concussion education program as a part of the undergraduate medical Health Advocacy

and Leadership program at the University of Alberta in Edmonton, entitled Healthy Hockey Heads (3H), for ages 11 to 12 (peewee level, the age group before bodychecking is allowed). The program focused on prevention, recognition, and management of concussions in an effort to foster awareness of these injuries and ways to avoid sequelae.

Our study was approved by the ethics board at the University of Alberta. We divided peewee-level hockey players into control and intervention groups. The intervention study group was provided with an educational package for parents, coaches, and players (n=67). The 3H education package consisted of a manual that covered various topics such as brain anatomy, signs and symptoms of concussion, and management and prevention of injuries; a Sport Concussion Assessment Tool, version 2, card; and a stop sign decal to place on the player's helmet. Participants also viewed a short video by Canadian physician Mike Evans called "Concussions 101."⁷

Even with a small sample size and challenges reporting player injuries, the debriefing sessions presented valuable information. Most of the study groups described the need to implement education programs but difficulties with prioritizing safety education courses for coaches, parents, and players in busy hockey team schedules. They also indicated that they liked the comprehensive manual and the video.


The players are ready to tackle the issue, and the 3H package can be a tool for concussion education. It contains an easy-to-read manual, available from **CFPlus*** with a good foundation of knowledge geared toward hockey players younger than 15 years of age that can be used in conjunction with other resources.

Advocating for our young patients

As a family medicine resident and a former physical therapist who worked with young athletes, L.K. learned the importance of advocating for our patients. Primary care physicians can play a key role in the prevention of concussions.^{8,9} It is not enough to have numerous concussion resources that participants can voluntarily access if they desire. Structured concussion education

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*The Healthy Hockey Heads manual is available at www.cfp.ca. Go to the full text of this article and click on **CFPlus** in the menu at the top right-hand side of the page.

should be a critical part of hockey programs across Canada. The damaging effects of concussions are preventable and a concerted effort is needed to educate our young hockey athletes. 

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Competing interests

None declared

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